

## ABSTRACT OF THE DISCLOSURE

5 A gravitational wave generating device comprising an energizing means which act upon energizable elements such as molecules, atoms, nuclei or nuclear particles in order to create nuclear reactions or collisions, the products of which can move in a single preferred direction with an attendant impulse (jerk  
10 or harmonic oscillation) of an ensemble of target nuclei or other energizable elements over a very brief time period. The target nuclei or energizable elements acting in concert generate a gravitational wave. A preferred embodiment involves the use of a pulsed particle beam moving at the local gravitational wave  
15 speed in a target mass, which is comprised of target nuclei, to trigger a nuclear reaction and build up a coherent gravitational wave as the particles of the beam move through the target mass and impact target nuclei over very short time spans. An information-processing device connected to a computer, controls  
20 the particle beam's high-frequency, (approximately GHz to THz) pulse rate and the number of particles in each bunch comprising the pulse in order to produce modulated gravitational waves that can carry information. A gravitational wave generation device that exhibits directivity. A gravitational wave detection device  
25 that exhibits directivity and can be tuned. The utilization of a medium in which the gravitational wave speed is reduced in order to effect refraction of the gravitational wave.

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